

CLAIM AMENDMENTS

IN THE CLAIMS

This listing of the claims will replace all prior versions, and listing, of claims in the application or previous response to office action:

1. **(Currently Amended)** A method for monitoring the operability of an injection system of an internal combustion engine, comprising a pressure accumulator, an injection valve connected to the pressure accumulator, a controllable fuel supply system which delivers fuel to the pressure accumulator, the method comprising the steps of:

- measuring the pressure in the pressure accumulator by a pressure sensor coupled with the pressure accumulator,
- feeding the measured pressure value to a control unit;
- controlling the quantity of fuel delivered by the injection valve and supplied from the fuel supply system as a function of operating parameters of the internal combustion engine,
- varying the quantity of fuel delivered by the injection valve,
- measuring a resulting pressure, comparing the resulting pressure with a setpoint pressure for the given operating conditions, and
- detecting a malfunction source depending on the deviation of the measured resulting pressure from the comparison value and if the measured resulting pressure is below the setpoint value, wherein in case of a change of injection quantity, a pressure valve connected to the pressure accumulator which cannot set the desired pressure is detected as the source of a fault, if the pressure is below setpoint in the pressure accumulator, and in case of an approximately constant pressure in the pressure accumulator.

2. (Cancelled)

3. (Currently Amended) A method for monitoring the operability of an injection system of an internal combustion engine, comprising a pressure accumulator, an injection valve connected to the pressure accumulator, a controllable fuel supply system which delivers fuel to the pressure accumulator, the method comprising the steps of:

- measuring the pressure in the pressure accumulator by a pressure sensor coupled with the pressure accumulator,

- feeding the measured pressure value to a control unit;

- controlling the quantity of fuel delivered by the injection valve and supplied from the fuel supply system as a function of operating parameters of the internal combustion engine,

- varying the quantity of fuel delivered by the injection valve,

- measuring a resulting pressure, comparing the resulting pressure with a setpoint pressure for the given operating conditions, and

- detecting a malfunction source depending on the deviation of the measured resulting pressure from the comparison value and if the measured resulting pressure is below the setpoint value,

wherein~~The method according to claim 1, wherein, if in case of a change of the~~ injection quantity ~~changes~~, if the pressure is below setpoint in the pressure accumulator, and if the pressure in the pressure accumulator changes contrary to the change in the injection quantity, the fuel supply system which does not supply sufficient fuel is detected as the source of the fault.

4. (Previously Presented) The method according to claim 1, wherein, the pressure is measured over a measuring period of 1 second and the time response of the pressure during the measuring period is compared with a setpoint response.

5. (Previously Presented) The method according to claim 1, wherein, depending on the fault detected, an appropriate emergency program for control by the control unit is used, wherein appropriate emergency programs being available to the control unit for the various malfunctions.

6. (Currently Amended) A method for monitoring the operability of an injection system of an internal combustion engine, comprising the steps of:

- measuring the pressure in a pressure accumulator by a pressure sensor,
- controlling the quantity of fuel delivered by an injection valve and supplied from a fuel supply system as a function of operating parameters of the internal combustion engine,
- varying the quantity of fuel delivered by the injection valve,
- measuring a resulting pressure,
- comparing the resulting pressure with a setpoint pressure for the given operating conditions, and
- detecting a malfunction source depending on the resulting pressure and on the deviation of the resulting pressure from the comparison value, wherein, in case the injection quantity changes, if the pressure is below setpoint in the pressure accumulator, and in case of an approximately constant pressure in the pressure accumulator, a pressure valve connected to the pressure accumulator is detected as the source of the fault.

7. (Cancelled)

8. (Currently Amended) A method for monitoring the operability of an injection system of an internal combustion engine, comprising the steps of:

- measuring the pressure in a pressure accumulator by a pressure sensor,
- controlling the quantity of fuel delivered by an injection valve and supplied from a fuel supply system as a function of operating parameters of the internal combustion engine,
- varying the quantity of fuel delivered by the injection valve,

- measuring a resulting pressure,
- comparing the resulting pressure with a setpoint pressure for the given
operating conditions, and
- detecting a malfunction source depending on the resulting pressure and on the
deviation of the resulting pressure from the comparison value.~~The method according to~~
~~claim 6,~~ wherein, if-in case the injection quantity changes, if-and the pressure is below
setpoint in the pressure accumulator, and if the pressure in the pressure accumulator changes
contrary to the change in the injection quantity, the fuel supply system is detected as the
source of the fault.

9. (Previously Presented) The method according to claim 6, wherein, the
pressure is measured over a measuring period of 1 second and the time response of the
pressure during the measuring period is compared with a setpoint response.

10. (Previously Presented) The method according to claim 6, wherein, depending
on the fault detected, an appropriate emergency program for control by the control unit is
used, wherein appropriate emergency programs being available to the control unit for the
various malfunctions.

11. **(Currently Amended)** A system for monitoring the operability of an injection system of an internal combustion engine, comprising:

- a pressure accumulator,
- an injection valve connected to the pressure accumulator,
- a controllable fuel supply system which delivers fuel to the pressure accumulator,
- a pressure sensor coupled with the pressure accumulator,
- a control unit controlling the quantity of fuel delivered by an injection valve and supplied from a fuel supply system as a function of operating parameters of the internal combustion engine, and varying the quantity of fuel delivered by the injection valve,
- a comparator comparing the resulting pressure with a setpoint pressure for the given operating conditions, and

detecting a malfunction source depending on the resulting pressure and on the deviation of the resulting pressure from the comparison value, wherein, in case the injection quantity changes and the pressure is below setpoint in the pressure accumulator, and in case of an approximately constant pressure in the pressure accumulator, a pressure valve connected to the pressure accumulator is detected as the source of the fault.

12. (Cancelled)

13. **(Currently Amended)** A system for monitoring the operability of an injection system of an internal combustion engine, comprising:

- a pressure accumulator,
- an injection valve connected to the pressure accumulator,
- a controllable fuel supply system which delivers fuel to the pressure accumulator,
- a pressure sensor coupled with the pressure accumulator,
- a control unit controlling the quantity of fuel delivered by an injection valve and supplied from a fuel supply system as a function of operating parameters of the internal combustion engine, and varying the quantity of fuel delivered by the injection valve,

- a comparator comparing the resulting pressure with a setpoint pressure for the given operating conditions, and

detecting a malfunction source depending on the resulting pressure and on the deviation of the resulting pressure from the comparison value, The system according to claim 11, wherein, if the injection quantity changes, if the pressure is below setpoint in the pressure accumulator, and if the pressure in the pressure accumulator changes contrary to the change in the injection quantity, the fuel supply system is detected as the source of the fault.

14. (Previously Presented) The system according to claim 11, wherein, the pressure is measured over a measuring period of 1 second and the time response of the pressure during the measuring period is compared with a setpoint response.

15. (Previously Presented) The method according to claim 11, wherein, depending on the fault detected, an appropriate emergency program for control by the control unit is used, wherein appropriate emergency programs being available to the control unit for the various malfunctions.

16. (NEW) The method according to claim 3, wherein, the pressure is measured over a measuring period of 1 second and the time response of the pressure during the measuring period is compared with a setpoint response.

17. (NEW) The method according to claim 3, wherein, depending on the fault detected, an appropriate emergency program for control by the control unit is used, wherein appropriate emergency programs being available to the control unit for the various malfunctions.

18. (NEW) The method according to claim 8, wherein, the pressure is measured over a measuring period of 1 second and the time response of the pressure during the measuring period is compared with a setpoint response.

19. (NEW) The method according to claim 8, wherein, depending on the fault detected, an appropriate emergency program for control by the control unit is used, wherein appropriate emergency programs being available to the control unit for the various malfunctions.

20. (NEW) The system according to claim 13, wherein, the pressure is measured over a measuring period of 1 second and the time response of the pressure during the measuring period is compared with a setpoint response.

21. (NEW) The method according to claim 13, wherein, depending on the fault detected, an appropriate emergency program for control by the control unit is used, wherein appropriate emergency programs being available to the control unit for the various malfunctions.

22. (NEW) A method for monitoring the operability of an injection system of an internal combustion engine, comprising a pressure accumulator, an injection valve connected to the pressure accumulator, a controllable fuel supply system which delivers fuel to the pressure accumulator, the method comprising the steps of:

- measuring the pressure in the pressure accumulator by a pressure sensor coupled with the pressure accumulator,
- feeding the measured pressure value to a control unit;
- controlling the quantity of fuel delivered by the injection valve and supplied from the fuel supply system as a function of operating parameters of the internal combustion engine,
- varying the quantity of fuel delivered by the injection valve,
- measuring a temporal resulting pressure over a measuring period of 1 second;
- comparing the temporal response of the pressure during the measuring period with a temporal setpoint pressure for the given operating conditions, and
- detecting a malfunction source depending on the deviation of the measured resulting pressure from the comparison value and if the measured resulting pressure is below the setpoint value.